REMARKS

This is a full and timely response to the Office Action mailed March 13, 2003. By this amendment, Applicants have added new claims 25 and 26. Support for new claim 25 can be found variously throughout the specification, including, for example, page 13, lines 11-20. Support for new claim 26 can be found variously throughout the specification, including, for example, original claims 13 and 15. No new matter has been added. Accordingly, claims 13-26 are presently pending in the application. Applicants believe that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks are respectfully requested.

Claim Rejections- 35 U.S.C. § 103:

Claims 13 and 15-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,355,076 ("Gash") in view of Applicants' allegedly admitted prior art. This rejection is respectfully traversed.

Independent claim 13 of the present application recites a method for manufacture of a polyolefin article, including the steps of covering an oriented polyolefin material having a value of not exceeding 5×10^{-5} (/°C) for average coefficient of linear expansion in the 20 – 80 °C range with a layer of polyolefin having a melting point lower than that of said oriented polyolefin material; and subsequent to the covering with the polyolefin layer, effecting joining of the oriented polyolefin material by the application of pressure and heat at a temperature below the melting point of the oriented polyolefin material but sufficient to soften or melt said covering polyolefin.

Gash discloses a two-step dry laminating method wherein at least two plastic films of the same or different nature are brought into intimate contact with one another and heated to a temperature up to the melting point of the film having the lowest melting point in order to form a low peel strength composite. These films may comprise polyolefin material, including oriented polyolefin, which may be joined through the use of heat and pressure rolls.

As acknowledged in the action, Gash fails to disclose, teach or suggest the oriented polyolefin film as having an average coefficient of linear expansion lower than 5×10^{-5} (/°C) in

the 20 - 80 °C range, as is disclosed in claim 13 of the present application. The action seeks to remedy Gash's deficiency by alleging that one of ordinary skill in the art would readily expect the oriented polyolefin films in Gash to have an average coefficient of linear expansion of less than or equal to 5 x 10^{-5} (/°C) in the 20 - 80 °C range in view of the Specification's disclosure that "an average linear expansion coefficient of polyolefin in an unoriented state is generally greater than 5 x 10^{-5} (/°C) in the 20 - 80 °C range." *(page 7, lines 13-15).*

While the present application does state that the average coefficient of linear expansion of polyolefin in an unoriented state is generally greater than 5 x 10^{-5} (/°C) in the 20-80 °C range, it does not necessarily follow that all oriented polyolefin materials have a value lower than 5 x 10^{-5} (/°C) in the 20 - 80 °C range. This can be seen, for example, in comparative examples 4-12 of U.S. Patent No. 4,717,624 ("Ikenaga et al."), wherein each of the oriented layers possess average coefficients of linear expansion exceeding 5 x 10^{-5} (/°C). *(See col. 17-18).* As taught in the present application, it is only when the correct orientation ratio is chosen (preferably within 20 - 40) and a temperature within the correct range used (preferably within 85 °C - 120 °C) that oriented polyolefin materials having an average coefficient of linear expansion of less than 5 x 10^{-5} (/°C) in the 20 – 80 °C range are obtained. *(See page 13, lines 2-20).* The use of temperatures and orientation ratios outside of these preferred ranges makes orientation at high ratios difficult, which in turn decreases the mechanical properties of the material and leads to increased average coefficients of linear expansion. *(See page 13, lines 17-20).*

Gash fails to disclose, teach or suggest the preferred orientation ratios or average coefficient of linear expansion values necessary to ensure that oriented polyolefin materials having an average coefficient of linear expansion of less than 5 x 10^{-5} (/°C) in the 20 – 80 °C range are obtained. In fact, because the preferred temperature range disclosed in Gash is between 60 – 180 °C, Gash does not employ the high orientation ratios required to achieve oriented materials having average coefficients of linear expansion of less than 5 x 10^{-5} (/°C) in the 20 – 80 °C range because temperatures above that of 120 °C are employed. As recited in the present invention, "the use of orientation temperature of exceeding 120 °C may result not only in the occurrence of sheet breakage, but also in the difficulty to effect orientation at high ratios." *(page 13).* Gash's use of temperatures exceeding 120 °C, therefore, requires that high orientation ratios are not used, and oriented materials having average coefficients of linear expansion of less than 5 x 10^{-5} (/°C) in the 20 – 80 °C range are therefore not attained. Claim 25 has been added to

further clarify this point, requiring the orientation temperature be maintained within a range of 85 – 120 °C.

Accordingly, certain conditions must be met to ensure that an oriented polyolefin material has a value lower than 5×10^{-5} (/°C) in the 20 - 80 °C range. Since, as discussed above, Gash fails to disclose, teach or suggest the conditions necessary to obtain an oriented material having an average coefficient of linear expansion of less than 5×10^{-5} (/°C) in the 20 – 80 °C range, a prima facie rejection of claim 13 has not been established, and withdrawal of this rejection is respectfully requested. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j).

Claim 15 recites a method for heat treating the surface of an oriented polyolefin material such that only the molecular orientation of the surface is relaxed, while the molecules at the central portion of the material remain oriented. *(See also page 29, lines 15-24).* This heat treatment allows the oriented polyolefin material to be joined with other materials, providing enhanced mechanical properties. *(See page 33, lines 1-20).*

In contrast, Gash requires that "the orientation in the films making up the laminate is not affected." *(col. 2, lines 31-34).* In fact, in each of the illustrative examples described in Gash, "[n]o pre-treatment whatsoever was given to the surfaces prior to the lamination process." *(col. 3, lines 24-25; col. 4, lines 10-12; 15-37).* Because the invention disclosed in Gash teaches that the orientation in the films making up the laminate is not affected, Gash clearly fails to disclose, teach or suggest the limitations of claim 15, wherein the surface of an oriented polyolefin material is heat treated such that the molecular orientation of the surface is relaxed. Therefore, a prima facie rejection of claim 15 has not been established, and withdrawal of the rejection is courteously solicited. Claim 26, having set forth the subject matter of allowable claim 15 into independent form, is also allowable.

Moreover, claims 15-24, being dependent upon allowable base claim 13, are also allowable for at least the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination. Accordingly, all § 103 rejections should be withdrawn.

Claim 14 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Gash in view of the Applicants' allegedly admitted prior art, and further in view of U.S. Patent No. 4,717,624 ("Ikenaga et al."). Applicants respectfully traverse this rejection. Claim 14, being dependant

upon claim 13, is allowable for at least the reasons above. Moreover, this claim is further distinguished by the materials recited therein, particularly within the claimed combination. Accordingly, this rejection should be withdrawn.

CONCLUSION

For at least the foregoing reasons, claims 13-26 are allowable and withdrawal of their rejections are respectfully requested. In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the examiner is respectfully requested to pass this application to issue. Should the examiner have any comments or suggestions that would place this application in even better form, the examiner is requested to telephone the undersigned attorney at the number below.

Dated: June 13, 2003

Respectfully submitted,

By _____

David T. Nikaido
Registration No.: 22,663
Robert S. Green
Registration No.: 41,800
RADER, FISHMAN & GRAUER PLLC
1233 20th Street, N.W.
Suite 501
Washington, DC 20036
(202) 955-3750
Attorney for Applicant

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 180013 for any such fees; and applicant(s) hereby petition for any needed extension of time.